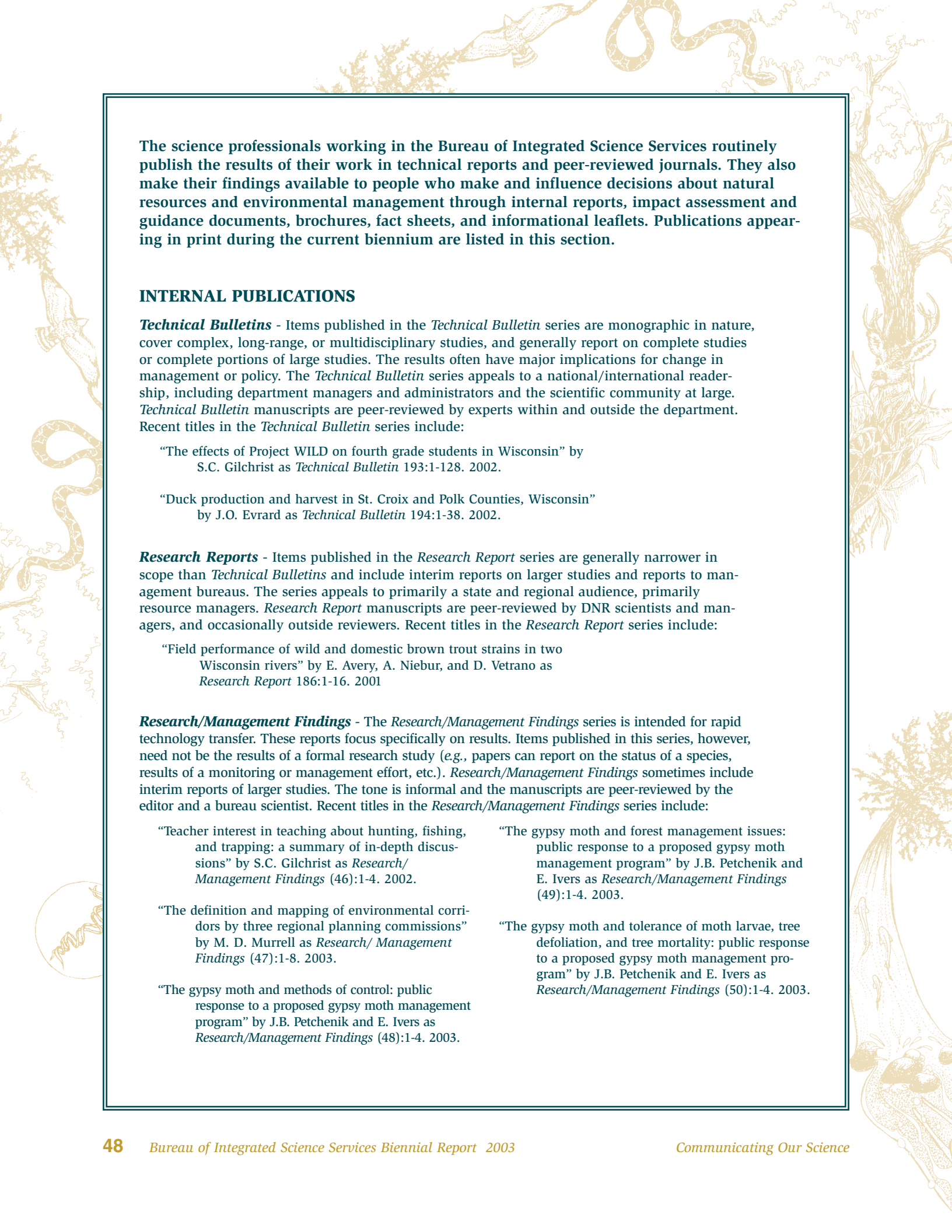


# COMMUNICATING OUR SCIENCE

*Science affects the way  
we think together.*

-Lewis Thomas



The science professionals working in the Bureau of Integrated Science Services routinely publish the results of their work in technical reports and peer-reviewed journals. They also make their findings available to people who make and influence decisions about natural resources and environmental management through internal reports, impact assessment and guidance documents, brochures, fact sheets, and informational leaflets. Publications appearing in print during the current biennium are listed in this section.

## INTERNAL PUBLICATIONS

**Technical Bulletins** - Items published in the *Technical Bulletin* series are monographic in nature, cover complex, long-range, or multidisciplinary studies, and generally report on complete studies or complete portions of large studies. The results often have major implications for change in management or policy. The *Technical Bulletin* series appeals to a national/international readership, including department managers and administrators and the scientific community at large. *Technical Bulletin* manuscripts are peer-reviewed by experts within and outside the department. Recent titles in the *Technical Bulletin* series include:

"The effects of Project WILD on fourth grade students in Wisconsin" by S.C. Gilchrist as *Technical Bulletin* 193:1-128. 2002.

"Duck production and harvest in St. Croix and Polk Counties, Wisconsin" by J.O. Evrard as *Technical Bulletin* 194:1-38. 2002.

**Research Reports** - Items published in the *Research Report* series are generally narrower in scope than *Technical Bulletins* and include interim reports on larger studies and reports to management bureaus. The series appeals to primarily a state and regional audience, primarily resource managers. *Research Report* manuscripts are peer-reviewed by DNR scientists and managers, and occasionally outside reviewers. Recent titles in the *Research Report* series include:

"Field performance of wild and domestic brown trout strains in two Wisconsin rivers" by E. Avery, A. Niebur, and D. Vetrano as *Research Report* 186:1-16. 2001

**Research/Management Findings** - The *Research/Management Findings* series is intended for rapid technology transfer. These reports focus specifically on results. Items published in this series, however, need not be the results of a formal research study (e.g., papers can report on the status of a species, results of a monitoring or management effort, etc.). *Research/Management Findings* sometimes include interim reports of larger studies. The tone is informal and the manuscripts are peer-reviewed by the editor and a bureau scientist. Recent titles in the *Research/Management Findings* series include:

"Teacher interest in teaching about hunting, fishing, and trapping: a summary of in-depth discussions" by S.C. Gilchrist as *Research/Management Findings* (46):1-4. 2002.

"The definition and mapping of environmental corridors by three regional planning commissions" by M. D. Murrell as *Research/Management Findings* (47):1-8. 2003.

"The gypsy moth and methods of control: public response to a proposed gypsy moth management program" by J.B. Petchenik and E. Ivers as *Research/Management Findings* (48):1-4. 2003.

"The gypsy moth and forest management issues: public response to a proposed gypsy moth management program" by J.B. Petchenik and E. Ivers as *Research/Management Findings* (49):1-4. 2003.

"The gypsy moth and tolerance of moth larvae, tree defoliation, and tree mortality: public response to a proposed gypsy moth management program" by J.B. Petchenik and E. Ivers as *Research/Management Findings* (50):1-4. 2003.

**Miscellaneous Publications** - In addition to the above-mentioned formal series, Integrated Science Services also publishes a variety of miscellaneous publications. These include program guidance documents, reference publications, educational materials, reports to management bureaus, environmental assessment reports, fact sheets, and informational leaflets. Recent miscellaneous publications include:

- Anonymous. 2002. *Guidelines for Wetland Compensatory Mitigation in Wisconsin, 2002*. Wisconsin DNR Wetlands Team, U.S. EPA, U.S. FWS, and U.S. Army COE. [PUB-SS-961 2002]
- Asplund, T. and P. Garrison. 2002. *The Effectiveness of the Partial Drawdown on Fox Lake, Dodge County, Wisconsin*. Wisconsin DNR, Madison. [PUB-SS-963 2002]
- Ayers, L.W. 2001. *The northern goshawk - Information poster*. Wisconsin DNR, Madison. [PUB-FR-183 2001]
- Ayers, L.W. and B.R. Bub. 2003. *Wisconsin raptors - Field identification cards*. Wisconsin DNR, Madison. [PUB-FR-210 2003]
- Bartelt, G., J. Pardee and K. Thiede. (eds.). 2003. *Environmental Impact Statement on Rules to Eradicate Chronic Wasting Disease in Wisconsin's Free-Ranging White-tailed Deer Herd*. Wisconsin DNR, Madison. [PUB-SS-980 2003]
- Dhuey, B. 2001. *Wisconsin Wildlife Surveys*, August 2001. Vol. 11, Issue 5. Wisconsin DNR, Madison. [PUB-SS-970 2001]
- Dhuey, B. 2002. *Wisconsin Wildlife Surveys*, August 2002. Vol. 12, Issue 5. Wisconsin DNR, Madison.
- Dhuey, B. 2003. *Wisconsin Wildlife Surveys*, April 2003. Vol. 13, Issue 2. Wisconsin DNR, Madison.
- Dhuey, B. 2001. *Wisconsin Big Game Harvest Report, 2001*. Vol. 12, Issue 1. Wisconsin DNR, Madison.
- Dhuey, B. 2002. *Wisconsin Big Game Harvest Report, 2002*. Vol. 13, Issue 1. Wisconsin DNR, Madison.
- Dhuey, B. 2001. *Canada Goose Harvest, 2001*. Vol. 12, Issue 3. Wisconsin DNR, Madison.
- Dhuey, B. 2002. *Canada Goose Harvest, 2002*. Vol. 13, Issue 3. Wisconsin DNR, Madison.
- Drumm, C. 2003. *2002 W.P.D.E.S. Permit Satisfaction Survey*. Wisconsin DNR, Madison. [PUB-SS-983 2003]
- Drumm, C. and E.B. Nelson. 2002. *2002 Air Operating Permit Satisfaction Survey*. Wisconsin DNR, Madison. [PUB-SS-978 2002]
- Garrison, P. 2002. *Effectiveness of Partial Draw Down on Fox Lake*. Wisconsin DNR, Madison. [PUB-SS-963 2002]
- Garrison, P. 2002. *What Green Lake's Sediments tell us about its History*. Wisconsin DNR, Madison. [PUB-SS-966 2002]
- Garrison, P.J. 2003. *Paleoecological Study of Big Cedar Lake, Washington County*. Wisconsin DNR, Madison. [PUB-SS-984 2003]
- Gilchrist, S.C. 2002. *Where Do You Stand On Trapping?* Wisconsin DNR, Madison. [PUB-SS-971 2002]
- Hemken, D. and E.B. Nelson. 2002. *Wisconsin Household Trash Disposal and Recycling, 1990-2002*. Wisconsin DNR, Madison. [PUB-SS-973 2002]
- Holveck, T. 2001. *Land-Use Lingo: A Glossary of Land-Use Terms for Staff of the Wisconsin Department of Natural Resources*. Wisconsin DNR, Madison. [PUB-SS-956 2001]
- Klemm, I. 2001. *Reference Sample Guidance: A Guide to Reference Sample Requirements of the Wisconsin Laboratory Certification Program*. Wisconsin DNR, Madison. [PUB-SS-958 2001]
- Kline, J. and T. Bernthal. 2002. *Building the Big Picture: Identifying Wetland Management Opportunities in the Milwaukee River Basin*. Wisconsin DNR, Madison. [PUB-SS-975 2002]
- Kubisiak, J.F., K.R. McCaffrey, W.A. Creed, T.A. Heberlein, R.C. Bishop and R.E. Rolley. 2002. *Sandhill Whitetails: Providing New Perspective for Deer Management*. Wisconsin DNR, Madison. [PUB-SS-962 2002]



### **Miscellaneous Publications** - continued:

Land Use Team. 2003. *A Sound Land Use Vision and Natural Resources Planning*. Wisconsin DNR, Madison. [PUB-SS-979 2003]

Lillie, R. , P. Garrison, Stanley Dodson, R. Bautz and G. LaLiberte. 2002. *Refinement and Expansion of Wetland Biological Indices for Wisconsin*. Wisconsin DNR, Madison. [PUB-SS-968 2002]

Nelson, E.B. 2002. *Riding All-terrain Vehicles in Wisconsin: Results of a 1999-2000 Survey of ATV Riders*. Wisconsin DNR, Madison. [PUB-SS-959 2002]

Pahs, J. and K. Pereira. 2002. *Content Analysis of Input Gathered at the Community Open Space Summit, October 11-13, 2001, Appleton, WI*. Wisconsin DNR, Madison. [PUB-SS-967 2002]

Petchenik, J.B. 2002. *Public Response to a Proposed Gypsy Moth Management Control Program in the Southern Unit of the Kettle Moraine State Forest*. Wisconsin DNR, Madison. [PUB-SS-976 2002]

Petchenik, J.B. 2003. *Chronic Wasting Disease in Wisconsin and the 2002 Hunting Season: Gun Deer Hunters' First Response*. Wisconsin DNR, Madison. [PUB-SS-982 2001]

Scarpace, E. and J. Schimpff. 2001. *Endangered and Threatened Species Listing Criteria: A Review of Agency and Organizational Experiences*. Wisconsin DNR, Madison. [PUB-SS-957 2001]

Strohl, D. and. B. Woods. 2003. *See Cella Chow! A Purple Loosestrife Biological Control Manual for Educators*. Wisconsin DNR and Wisconsin Wetlands Association, Madison. [PUB-SS-981 2003]

Watermolen, D.J. 2001. *Catalog of State and Provincial Mammal Publications for the United States and Canada, 1980-1999*. Wisconsin DNR, Madison. [PUB-SS-960 2001]

Watermolen, D.J. and M.D. Murrell. 2001. *Checklists of Wisconsin Vertebrates*. Wisconsin DNR, Madison. [PUB-SS-954 2001]

Wright, C. 2002. *Agriculture and Land Use: Why Farmers Need to Care About Comprehensive Planning*. Wisconsin DNR, Madison. [PUB-SS-972 2002]

## **Sharing memories and messages...**

In the past, land managers often developed plans to benefit individual species of plants or animals. Today, the department includes the entire ecosystem with consideration for all species affected by management, including humans. For example, when considering management and restoration options for the Northwest Sands landscape (pine barrens), we needed information about what area people thought about the ecosystem and its management. While others collected ecological data on amphibians, reptiles, birds, butterflies, small mammals, and other aspects of the barrens ecosystem, Susan Gilchrist used interviews to collect memories and opinions from people with a long-term connection to the region. She later presented the memories and messages conveyed by the interviewees to the planning committee, which incorporated these human dimensions data into their vision for a mosaic of grasslands, timber, wetlands, and towns.

Recognizing the value of the interviews conducted, Susan categorized the memories by themes and drafted a book, *Sand Country Memories*, to be published in 2003. Educational activities are being drafted to accompany the memories. The interdisciplinary middle school curriculum will focus on ways students can explore their local ecosystems by collecting oral history and participating in classroom activities related to wildlife, water, fire, forests, and more, noting how their own ecosystem is similar or dissimilar to the barrens. Oral histories and other human dimensions research techniques allow us to put our ecological research into a broader context. Similar efforts are underway in other regions ensuring that local social and economic messages are communicated to managers along with ecological data.



Harold Searles (an interviewee) showing an old fashioned scoop used for harvesting cranberries in the northwest sands before the process became mechanized.

## EXTERNAL PUBLICATIONS

Aside from publishing in the Bureau's publication series, Science Services authors publish in a wide variety of technical and scientific journals, serials, monographs, and books produced by scientific societies and other publishers. Here, we list recent external publications, with Science Services' authors appearing in **bold type**.

Science Services  
staff published  
more than 90  
scientific publications  
during the  
2001-2003  
biennium.

- Ayers, L.W.** 2003. Encouraging raptors to nest and hunt on your property. *Woodland Management* 24(1).
- Bielefeldt, J., **M.J. Mossman**, E. Epstein and **B.R. Bub**. 2003. New distributional records for summer birds in southern Wisconsin conifer swamps. *Passenger Pigeon* (In review).
- Bowerman, W.W., D.A. Best, J.P. Giesy, M.C. Shieldcastle, **M.W. Meyer**, S. Postupalsky and J.G. Sikarskie. 2003. Associations between regional differences in PCBs and DDT in blood of nestling bald eagles and reproductive productivity. *Environmental Toxicology and Chemistry* 22:371-376.
- Bozek, M.A., P. Short, C. Edwards, **M.J. Jennings** and **S. Newman**. 2002. Habitat selection of nesting smallmouth bass (*Micropterus dolomieu dolomieu*) in two North Temperate lakes. Pp. 131-144 In M.S. Ridgway and D.P. Philipp (eds.). *Black bass: Ecology, conservation, and management*. American Fisheries Society, Bethesda, MD.
- Bub, B.R.** 2001. Riparian and upland breeding bird communities in northern hardwood forests logged using the selection method. MS Thesis. Michigan Technological University, Houghton, Michigan.
- Catalano, M.J.** 2002. Evaluating fish-habitat relations, fish distribution, and effects of dam removal in the Baraboo River, Wisconsin. MS Thesis. University of Wisconsin-Stevens Point.
- Cochran, P.A., and **J. Lyons**. 2001. The saffron shiner (*Notropis rubricroceus*) as a nest associate of the creek chub (*Semotilus atromaculatus*). *Journal of the Tennessee Academy of Science* 76:61-62.
- Cochran, P.A., **J. Lyons** and M.G. Bolek. 2002. Geographic distribution: *Necturus maculosus maculosus* (common mudpuppy). *SSAR Herpetological Review* 33(2):144.
- Dinsmore, D.** 2002. Adventures in environmental data reporting: High tech, low tech, and everything in between or Wisconsin DNR's reporting systems move toward the future. *Quality Assurance* 9(3-4):145-155.
- DuBois, R.B.** 2003. Unreliability of taxonomic keys to larval *Leucorrhinia*. *Argia* 15:13-14.
- DuBois, R.B.** and R.R. Dubielzig. 2003. Effect of hook type on mortality, trauma, and capture efficiency of wild stream trout caught by angling with artificial spinners. *North American Journal of Fisheries Management* (In press).
- DuBois, R.B.** and D.C. Fulton. 2001. Trout and the Trout Angler II: Introduction. Pages 1-2 In R. DuBois, K. Kayle, M. Ebbes and S. Turner (eds.). *Trout and the trout angler II*. American Fisheries Society, North Central Division, Salmonid Technical Committee, St. Paul, Minnesota.
- DuBois, R.B.** and W.P. Gobin. 2003. Winter drift, sex ratios, and size distribution of *Lethocerus americanus* (Heteroptera: Belostomatidae) in a Lake Superior tributary. *Great Lakes Entomologist* 34(2):69-76.
- DuBois, R.B.** and K.E. Kuklinski. 2003. Effect of hook type on mortality, trauma, and capture efficiency of wild stream trout caught by active bait fishing. *North American Journal of Fisheries Management* (In press).
- Dykstra, C.R., W.H. Karasov, **M.W. Meyer** and D.K. Warnke. 2003. Daily energy expenditure of nestling bald eagles in northern Wisconsin. *Condor* (In press).
- Dykstra, C.R., **M.W. Meyer**, S. Postupalsky, K.L. Stromborg, D.K. Warnke and R.G. Eckstein. 2003. Bald eagles of Lake Michigan: ecology and contaminants. In T.A. Edsall (ed.). *The Lake Michigan ecosystem: ecology, health, and management* (In press).
- Dykstra, C.R., **M.W. Meyer**, K. Stromborg, W.W. Bowerman and J.P. Giesy. 2001. Association of low reproductive rates and high contaminant levels in Bald Eagles on Green Bay, Lake Michigan. *Journal of Great Lakes Research* 27:239-251.
- Dykstra, C.R., **M.W. Meyer** and D.K. Warnke. 2002. Bald eagle reproductive performance following video camera placement. *Journal of Raptor Research* 36:136-139.
- Dymond, C.C., **D.J. Mladenoff** and V.C. Radeloff. 2002. Phenological differences in Tasseled Cap indices improve deciduous forest classification. *Remote Sensing of Environment* 80:460-472.

**External Publications - continued:**

- Eisele, T., and **L.W. Ayers**. 2003. Is it an adult female Cooper's Hawk...or just a "chicken hawk?" *Woodland Management* 24(1).
- Fassbender, R. and **D.J. Watermolen**. 2002. Bird predation on the mudpuppy (*Necturus maculosus maculosus*). *Bulletin of the Chicago Herpetological Society* 37(8):137-138.
- Fevold, B.M., **M.W. Meyer**, P.R. Rasmussen and S.A. Temple. 2003. Bioaccumulation patterns and temporal trends of mercury exposure in Wisconsin common loons. *Ecotoxicology* 12:83-93.
- Fitzgerald, S.A and **P.J. Garrison**. 2003. Lake sediments as recorders of biogeochemical processes and perturbations in Musky Bay, Lac Courte Oreilles, Wisconsin: Part 2: Organic carbon and nutrient (N,P) budgets. *Journal of Paleolimnology* (In press).
- Fitzpatrick, F.A., **P.J. Garrison**, S.A. Fitzgerald, J.F. Elder. 2003. Nutrient, trace-element, and ecological history of Musky Bay, Lac Courte Oreilles, Wisconsin, as inferred from sediment cores. U.S. Geological Survey Water-Resources Investigations Report 03-4225.
- Flaspohler, D.J., C.J.F. Huckins, **B.R. Bub** and P.J. VanDusen. 2002. Temporal patterns in aquatic and avian communities following selective logging in the upper Great Lakes region. *Forest Science* 48:339-349.
- Fournier, F., W.H. Karasov, K.P. Kenow, **M.W. Meyer** and R.K. Hines. 2002. The oral bioavailability and toxicokinetics of methylmercury in common loon (*Gavia immer*) chicks. *Comparative Biochemistry and Physiology*. A. 133:703-714.
- Fournier, F., **M.W. Meyer**, K.P., Kenow, R.K. Hines and W.H. Karasov. 2003. Field metabolic rate and the energetics of growth of free ranging common loon chicks. *Auk* (In press).
- Franklin, J., A.D. Syphard, **D.J. Mladenoff**, H.S. He, D.K. Simons, R.P. Martin, D. Deutschman and J.F. O'Leary. 2001. Simulating the effects of different fire regimes on plant functional groups in Southern California. *Ecological Modelling* 142:261-283.
- Garrison, P.J.** 2001. Book Review of *Conservation Management of Freshwater Habitats - Lakes, Rivers, and Wetlands* by P.S. Maitland and N.C. Morgan. *Journal of Paleolimnology* 25:545-547.
- Garrison, P.J.** 2001. Problem identification. Pp. 101-138 In. C. Holdren, W. Jones and J. Taggart (eds.). *Managing Lakes and Reservoirs*. North American Lake Management Society and Terene Institute in coop. with Office of Water Assessment, Watershed Protection Division, U.S. EPA, Madison, WI.
- Garrison, P.J.** and Fitzgerald, S.A. 2003. Lake sediments as recorders of biogeochemical processes and perturbations in Musky Bay, Lac Courte Oreilles, Wisconsin: Part 1: Minor/trace elements, biogenic silica, and biostratigraphy. *Journal of Paleolimnology* (In press).
- Goldstein, R., **L. Wang**, T. Simon and P. Stewart. 2002. Development of a stream habitat index for the northern lakes and forests ecoregion. *North American Journal of Fisheries Management* 22:452-464.
- Gostomski, T. and **P. Rasmussen**. 2001. Results of the 2000 Common Loon survey in Wisconsin. *Passenger Pigeon* 63(1&2):15-25.
- Griffin, M.P.A.** and I. Valiela. 2001. Use of  $\delta^{15}\text{N}$  stable isotope in studies of life history of and trophic position of *F. heteroclitus* and *M. menidia*. *Marine Ecology Progress Series* 214:299-305.
- Guzy, M.J., C.A. Ribic and **D.W. Sample**. 2003. Helping at a Henslow's sparrow nest in Wisconsin. *Wilson Bulletin* 114:407-409.
- Hauxwell, J.**, J. Cebrián and I. Valiela. 2003. Eelgrass (*Zostera marina* L.) loss in temperate estuaries: relationship to land-derived nitrogen loads and effect of light limitation imposed by algae. *Marine Ecology Progress Series* 247:59-73.
- Hauxwell, J.**, C. Jacoby, T.K. Frazer and J. Stevely. 2001. Nutrients and Florida's coastal waters: the links between people, increased nutrients, and changes to coastal aquatic systems. Florida Sea Grant, Gainesville, FL. (SGB-55)
- He, H.S., **D.J. Mladenoff** and E.J. Gustafson. 2002. Study of landscape change under forest harvesting and climate warming-induced fire disturbance. *Forest Ecology and Management* 155:257-270.
- He, H.S., S.J. Ventura and **D.J. Mladenoff**. 2002. Effects of spatial aggregation approaches on classified satellite imagery. *International Journal of Geographical Information Science* 16:93-109.



- Hrabik, T.R. and **C.J. Watras**. 2002. Recent declines in mercury concentration in a freshwater fishery: isolating the effects of de-acidification and decreased atmospheric mercury deposition in Little Rock Lake. *Science of the Total Environment* 297:229-237.
- Jennings, M.J.** and **E.E. Emmons**. 2001. Measuring, understanding, and managing effects of development on lakes: are we there yet? *Lakelines* 21:20-22.
- Jennings, M.J., E.E. Emmons, G.R. Hatzenbeler, C. Edwards** and **M.A. Bozek**. 2002. Is littoral habitat affected by residential development and land-use changes in watersheds of Wisconsin lakes? *Lake and Reservoir Management* (In press).
- Kenow, K.P., S. Gutreuter, R.K. Hines, **M.W. Meyer**, F. Fournier and W.H. Karasov. 2003. Effects of methyl mercury exposure on the growth of juvenile common loons. *Ecotoxicology* 12:94-102.
- Kenow, K.P., **M.W. Meyer**, D.C. Evers, D.C. Douglas and J. Hines. 2002. Use of satellite telemetry to identify common loon migration routes, staging areas and wintering range. *Waterbirds* 25:449-458.
- Kenow KP, **M.W. Meyer**, F. Fournier, W.H. Karasov, A. Elfessi and S. Gutreuter. 2003. Effects of subcutaneous transmitter implants on behavior, growth, energetics, and survival of Common Loon chicks. *Journal of Field Ornithology* (In press)
- Kenow, K.P., R.G. Wright, M.D. Samuel and **P.W. Rasmussen**. 2001. Integrating SAS and GIS software to improve habitat-use estimates from radiotelemetry data. *Wildlife Society Bulletin* 29:1006-1009.
- Klute, D.S., **L.W. Ayers**, M.T. Green, W.H. Howe, S.L. Jones, J.A. Shaffer, S.R. Sheffield and T.S. Zimmerman. 2003. *Status assessment and conservation plan for the western burrowing owl in the United States*. U.S. Department of Interior, Fish and Wildlife Service, Biological Technical Publication FWS/BTP-R6001-2003, Washington, D.C.
- Korfanta, N.M., **L.W. Ayers**, S.H. Anderson and D.B. McDonald. 2001. A preliminary assessment of burrowing owl population status in Wyoming. *Journal of Raptor Research* 35(4):337-343.
- Lathrop, R.C.**, B.M. Johnson, T.B. Johnson, M.T. Vogelsang, S.R. Carpenter, T.R. Hrabik, J.F. Kitchell, J.J. Magnuson, L.G. Rudstam and R.S. Stewart. 2002. Stocking piscivores to improve fishing and water clarity: a synthesis of the Lake Mendota biomanipulation project. *Freshwater Biology* 47:2410-2424.
- Lillie, R.** 2003. Macroinvertebrate community structure as a predictor of water duration in Wisconsin wetlands. *Journal of the American Water Resources Association* (In press).
- Lindsay, A.R., S.S. Gillum and **M.W. Meyer**. 2002. Differences in avian assemblages between developed and undeveloped lakeshores in a mixed hardwood forest. *Biological Conservation* 107: 1-11.
- Lyons, J.** and **P. Kanehl**. 2002. Seasonal movements of smallmouth bass in streams. Chap. 11 In M. Ridgway and D. P. Philipp (eds). *Black bass: Ecology, conservation, and management*. American Fisheries Society, Bethesda, MD.
- Lyons, J., R.R. Piette** and **K.W. Niermeyer**. 2001. Development, validation, and application of a fish-based index of biotic integrity for Wisconsin's large warmwater rivers. *Transactions of the American Fisheries Society* 130:1077-1094.
- Manies, K.L., **D.J. Mladenoff** and E.V. Nordheim. 2001. Assessing large-scale surveyor variability in the historic forest data of the original U.S. Public Land Survey. *Canadian Journal of Forest Research* 31: 1719-1730.
- Margenau, T.L.**, S.J. Gilbert and **G.R. Hatzenbeler**. 2003. Angler catch and harvest of northern pike in northern Wisconsin lakes. *North American Journal of Fisheries Management* 23:307-312.
- Martin, K.J.** and W.C. McComb. 2002. Small mammal habitat associations at patch and landscape scales in Oregon. *Forest Science* 48:255-264.
- Martin, K.J.** and W.C. McComb. 2003. Mammals in a landscape mosaic: implications for conservation In R.G. Anthony and C. Zabel (eds.). *Mammal community dynamics in western coniferous forests: management and conservation for the new millennium*. Cambridge University Press, London (In press).

**External Publications** - continued:

- Mauro, J.B.N., J.R.D. Guimarães, H. Hintelmann, **C. Watras**, L. Haack and S.A.C. Souza. 2002. Mercury methylation in macrophytes, periphyton and water: comparative studies with stable and radio-mercury additions. *Analytical and Bioanalytical Chemistry* (In press).
- McCaffery, K.R.** 2002. A closer look at traditional deer management. *Whitetails Unlimited Magazine* (Mar):33-40.
- Mercado-Silva, N., **J. Lyons**, G. Salgado-Maldonado and M. Medina-Nava. 2002. Validation of a fish-based index of biotic integrity for streams and rivers of central México. *Reviews in Fish Biology and Fisheries*. (In press).
- Mercado-Silva, N., L. M. Martínez-River, **J. Lyons**, and L. I. Iñiguez-Dávalos. 2002. Ayuquila-Armería River, west-central México. Subchapter of Chap. 22 In A.C. Benke and C.E. Cushing (eds). *Rivers of North America*. Academic Press, New York.
- Miller, T.F., **D.J. Mladenoff** and M.K. Clayton. 2002. Spatial autocorrelation and patterns of understory vegetation and environment in old-growth northern hardwood forests. *Ecological Monographs* 72:487-503.
- Mladenoff, D.J.**, S.E. Dahir, E.V. Nordheim, L.A. Schulte and G.G. Guntenspergen. 2002. Narrowing historical uncertainty: Probabilistic classification of ambiguously identified tree species in historical forest survey data. *Ecosystems* 5:539-553.
- Mossman, M.** 2002. Book Review: Alexander Wilson's *American Ornithology*. *Passenger Pigeon* 64(1&2):82-84.
- Newman, L.E., **R.B. DuBois** and T.N. Halpern. (eds.). 2003. A brook trout rehabilitation plan for Lake Superior. Great Lakes Fishery Commission, Miscellaneous Publication.
- Orbe-Mendoza, A. A., J. Acevedo-García and **J. Lyons**. 2002. Lake Pátzcuaro fishery management plan. *Reviews in Fish Biology and Fisheries* (In press).
- Piper, W.H., **M.W. Meyer**, M. Klich, K.B. Tischler and A. Dolsen. 2002. Floating platforms increase reproductive success of common loons. *Biological Conservation* 104:199-203.
- Radeloff, V.C., R.B. Hammer, P.R. Voss, A.E. Hagen, D.R. Field and **D.J. Mladenoff**. 2001. Human demographic trends and landscape level forest management in the northwest Wisconsin Pine Barrens. *Forest Science* 47:229-241.
- Rasmussen, P.W.**, D.M. Heisey, S.J. Gilbert, R.M. King and S.W. Hewett. 2002. Estimating post-spawning movement of walleye among interconnected lakes of northern Wisconsin. *Transactions of the American Fisheries Society* 131:1020-1032.
- Rasmussen, P.W.**, **W.E. Wheeler**, T.J. Moser, **L.E. Vine**, B.D. Sullivan and D.H. Rusch. 2001. Measurements of Canada goose morphology – sources of error and effects on classification. *Journal of Wildlife Management* 65:716-725.
- Ribic, C.A. and **D.W. Sample**. 2001. Associations of grassland birds with landscape factors in southern Wisconsin. *American Midland Naturalist* 146:105-121.
- Robertson, D.M., G.L. Goddard, E.A. Mergener, W.J. Rose, **P.J. Garrison**. 2002. Hydrology and water quality of Geneva Lake, Walworth County, Wisconsin. U.S. Geological Survey Water-Resources Investigations Report 02-4039.
- Rust, A.J., J.S. Diana, **T.L. Margenau** and C.J. Edwards. 2002. Lake characteristics influencing spawning success of muskellunge in northern Wisconsin lakes. *North American Journal of Fisheries Management* 22:834-841.
- Sample, D.W.**, C.A. Ribic and R.B. Renfrew. 2003. Linking landscape management with the conservation of grassland birds in Wisconsin. Pp 359-385 In J.A. Bissonette and I. Storch (eds). *Landscape ecology and resource management: linking theory with practice*. Island Press, Washington, D.C.
- Sauer, S.B.** 2002. Midwestern occurrences of *Erythroneura carbonata* McAtee (Hemiptera: Cicadellidae) and host associations with species of *Lysimachia* (Primulaceae). *Journal of the Kansas Entomological Society* 75(4):339-340.
- Sauer, S.B.** and E.D. Maurer. 2001. Notes on the distribution, behavior, and life history of *Attenuipyga vanduzeei* (Osborn & Ball) (Hemiptera: Cicadellidae) in Wisconsin. *American Midland Naturalist* 146:434-438.



- Saunders, R., M.A. Bozek, C. Edwards and **M.J. Jennings**. 2002. Habitat features affecting smallmouth bass nesting success in four northern Wisconsin lakes. Pp. 119-130 *In* M.S. Ridgway and D.P. Philipp (eds.). *Black bass: Ecology, conservation, and management*. American Fisheries Society, Bethesda, MD.
- Scheller, R.M. and **D.J. Mladenoff**. 2002. Species diversity, composition, and spatial patterning of understory plants in old-growth and managed northern hardwood forests. *Ecological Applications* 12:1329-1343.
- Schulte, L.A. and **D.J. Mladenoff**. 2001. The original U.S. Public Land Survey records: their use and limitations in reconstructing pre-European settlement vegetation. *Journal of Forestry* 99:5-10.
- Schulte, L.A., **D.J. Mladenoff** and E.V. Nordheim. 2002. Quantitative classification of a historic northern Wisconsin (U.S.A.) landscape: mapping forests at regional scales. *Canadian Journal of Forest Research* 32:1616-1638.
- Sprott, J.C., **D.J. Mladenoff** and J. Bolliger. 2002. Self-organized criticality in forest-landscape evolution. *Physics Letters A* 297:267-271.
- Stepenuck, K.F., R.L. Crunkilton and **L. Wang**. 2002. Impacts of urban land uses on macroinvertebrate communities in southeastern Wisconsin streams. *Journal of the American Water Resource Association* 38:1041-1051.
- Stewart, J.S., **L. Wang**, **J. Lyons**, J.A. Horwath and R. Bannerman. 2001. Influence of watershed, riparian-corridor, and reach-scale characteristics on aquatic biota in agricultural watersheds. *American Water Resources Association* 37:1475-1487.
- Unmuth, J.M.L., M.J. Hansen, **P.W. Rasmussen** and **T.D. Pellett**. 2001. Effects of mechanical harvesting of Eurasian watermilfoil on angling for Bluegills in Fish Lake, Wisconsin. *North American Journal of Fisheries Management* 21:448-454.
- Wang, L.** and **J. Lyons**. 2002. Fish and benthic macroinvertebrate assemblages as indicators of stream degradation in urbanizing watersheds. *In* T.P. Simon (ed). *Biological Response Signatures: Indicator Patterns Using Aquatic Communities*. CRC Press, Washington D.C.
- Wang, L., J. Lyons and P. Kanehl**. 2002. Effects of watershed best management practices on habitat and fish in Wisconsin streams. *Journal of American Water Resource Association* 38:663-680.
- Wang, L., J. Lyons, and P. Kanehl**. 2003. Impacts of urban land cover on trout streams in Wisconsin and Minnesota. *Transactions of American Fisheries Society*. (In press).
- Wang, L., J. Lyons, P. Kanehl** and R. Bannerman. 2001. Impacts of urbanization on stream habitat and fish across multiple spatial scales. *Environmental Management* 28:255-266.
- Wang, L., J. Lyons, R. Rasmussen, P. Kanehl, P. Seelbach, T. Simon, M. Wiley, E. Baker, S. Niemela and M. Stewart**. 2003. Influences of landscape- and reach-scale habitat on stream fish communities in the Northern Lakes and Forest ecoregion. *Canadian Journal of Fisheries and Aquatic Sciences* (In press).
- Wang, L., and B. Weigel**. 2003. Biotic integrity indices for evaluating the health of freshwater resources. *In* J.H. Lehr (ed.). *The Encyclopedia of waters*. John Wiley and Sons. (In press).
- Warnke, D.K., D.E. Andersen, C.J. Dykstra, **M.W. Meyer** and W.H. Karasov. 2002. Provisioning rates and time budgets of adult and nestling bald eagles at inland Wisconsin nests. *Journal of Raptor Research* 36:121-127.
- Watermolen, D.J.** 2001. American Crow Predation on Black-capped Chickadees. *Passenger Pigeon* 63(1&2):31-34.
- Watermolen, D.J.** 2002. Dealing with Reptile Ticks. *Bulletin of the Chicago Herpetological Society* 37(3):45-50.
- Watermolen, D.J., C. Bleser, D. Zastrow, J. Christensen, D.R. Lentz, and 20 co-authors**. 2002. Executive Summary, Wisconsin Statewide Karner Blue Butterfly Habitat Conservation Plan and Environmental Impact Statement. Pp. 286-293 *In* J.C. Nagle and J.B. Ruhl (eds). *The Law of Biodiversity and Ecosystem Management*. Foundation Press, New York.
- Watras, C.J., K.A. Morrison and T.K. Kratz**. 2002. Seasonal enrichment and depletion of Hg and SO<sub>4</sub> in Little Rock Lake: relationship to seasonal changes in atmospheric deposition. *Canadian Journal of Fisheries and Aquatic Sciences* 59:1660-1667.

**External Publications - continued:**

**Weigel, B.M.** 2003. Development of stream macroinvertebrate models that predict watershed and local stressors in Wisconsin. *Journal of the North American Benthological Society* 22:123-142.

**Weigel, B.M.,** Lisa J. Henne and L.M. Martinez-Rivera. 2002. Macroinvertebrate-based index of biotic integrity for protection of streams in west-central Mexico. *Journal of the North American Benthological Society* 21 (4):686-700.

**Woodford, J.E. and M.W. Meyer.** 2002. Impact of lakeshore development on green frog (*Rana clamitans*) abundance. *Biological Conservation* 110(2):277-284.

**Wydeven, A.P., D.J. Mladenoff, T.A. Sickley, B.E. Kohn, R.P. Thiel and J.L. Hansen.** 2001. Road density as a factor in habitat selection by wolves and other carnivores in the Great Lakes region. *Endangered Species Update* 18(4):110-114.

**YOUR FORUM**

## Low-profile wildlife researchers do vital work

**L**ast week, standing in the cold near Black Earth and watching a group of young wildlife researchers struggling to keep a sedated deer down, I was struck by the importance of the work they and others like them do and also of the relative obscurity in which most of them toil.

This is important work because wildlife biologists and others who do field research are gathering information that serves as a crucial link between ourselves and the creatures with whom we share this planet.



**RON SEELY**

their research gear bouncing around in the bed. We followed in my Jeep.

The frustrations of field work soon became apparent. For more than an hour, we followed the truck through the rolling hills near Black Earth.

could correct the mistake so they arrived in Nicaragua with no research gear.

But the biologists cheerfully made do. They commandeered all of the Zip-loc bags in my pack to use for collecting samples of mollusks and other river creatures. And I seem to remember several bourbon bottles working just fine for taking river water back to the states for analysis.

Some field scientists face considerable danger. For years, Bill Weber and Amy Vedder, both Madison graduates,

and the researchers could feel the warmth coming from its body and, eventually, when it quieted, hear its heartbeat.

Last year, I watched in a field near the Wisconsin River as eagle researcher Kristen Hall slipped beneath a net and wrapped her arms around a huge female eagle she had captured for her study. Like the deer, the eagle would be fitted with a radio transmitter and Hall would later spend hours in a small airplane tracking the eagle and several others in the area.

Fish and wildlife research supports the development of science-based regulations. For example, Science Services' waterfowl researchers help establish harvest quotas and provide expertise to national committees like the Mississippi Flyway Council.

